

**Before the
FEDERAL COMMUNICATIONS COMMISSION
Washington, DC 20554**

In the Matter of)	
)	
Amendment of the Commission's Rules with)	GN Docket No. 12-354
Regard to Commercial Operations in the 3550-)	
3650 MHz Band)	

COMMENTS OF CTIA – THE WIRELESS ASSOCIATION®

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I. INTRODUCTION AND SUMMARY

CTIA – The Wireless Association® (“CTIA”) submits these comments in the above-captioned proceeding proposing to make available spectrum in the 3.5 GHz band (3550-3650 MHz) for small cell deployments that can help address the growing demand for wireless broadband.¹ CTIA supports measures that will increase the utility of this spectrum and promote innovation and investment in the band. At the same time, this spectrum is not below 3 GHz and therefore is not suitable at this time for *mobile* broadband.² The National Broadband Plan recognized this when it identified 300 MHz for reallocation for “*mobile* flexible use” and did not include this band in its list.³ While CTIA supports the investigation of elements of sharing in this band, consistent with the comments below, CTIA believes that the Commission, National

¹ *Amendment of the Commission's Rules with Regard to Commercial Operations in the 3550-3650 MHz Band, Notice of Proposed Rulemaking and Order*, 27 FCC Rcd 15594 (2012) (“Notice”).

² See Notice at ¶ 19 (noting that this band is “above the 3 GHz threshold” identified as ideal spectrum for mobile cellular uses).

³ See Federal Communications Commission, CONNECTING AMERICA: THE NATIONAL BROADBAND PLAN, at 84 & Exh. 5-E (Mar. 16, 2010) (“NBP”) (*emphasis added*).

Telecommunications and Information Administration (“NTIA”), the Administration, and Congress must do everything in their power to *clear* as much spectrum as possible below 3 GHz for mobile broadband. The sharing scenarios investigated here are not a substitute for cleared spectrum for mobile broadband. As recently as today, Commissioner McDowell made a similar observation, calling on additional federal spectrum to be auctioned for exclusive use licenses.⁴ With Japan, South Korea, the UK, Spain, Germany, Italy, France, Canada, and many other countries clearing spectrum, or already delivering cleared spectrum to market, bringing cleared spectrum to market in the United States is a matter of international competitiveness. Cleared spectrum for mobile broadband will address not only capacity issues, but also drive world-leading speeds. In fact, Congress codified this preference for cleared spectrum into law.⁵

With these thoughts in mind, CTIA believes that the Commission should:

- Consider the 3.5 GHz band for small cell network deployments, which have the potential to help address ongoing capacity needs while promoting innovations in deployment and spectrum management.
- Continue to work with the NTIA to prioritize making additional cleared spectrum below 3 GHz available for reallocation to exclusive non-Federal use. Specifically, the 1755-1780 MHz band should remain a high priority.
- Adopt a spectrum assignment framework consistent with U.S. spectrum management policy. In particular, the three-tiered spectrum access approach, which appears to take a significant step back from long-standing, market-driven flexible use spectrum policy, should be reconsidered.

⁴ Statement of Commissioner Robert M. McDowell, *Revision of Part 15 of the Commission’s Rules to Permit Unlicensed National Information Infrastructure (U-NII) Devices in the 5 GHz Band*, Notice of Proposed Rulemaking, ET Docket No. 13-49 (rel. Feb. 20, 2013).

⁵ See Middle Class Tax Relief and Job Creation Act of 2012, Pub. L. No. 112-96, 126 Stat. 156, § 6701(a)(3) (“Spectrum Act”), *codified at* 47 U.S.C. 923(j) (directing NTIA, when evaluating potential bands for reallocation to non-Federal use, to “give priority to options involving reallocation of the band for *exclusive* non-Federal use”) (*emphasis added*).

- Consider whether a commercial, geographic licensing solution would better manage non-Federal access to the 3.5 GHz band. This could allow for greater coordination between the Federal incumbent and the licensee, reducing the chance of interference and delivering a greater degree of reliability to the non-Federal user.

With this Notice, the Commission correctly frames the issue by noting once again that “[d]emand for wireless broadband capacity is growing much faster than the availability of new spectrum.”⁶ While the 3.5 GHz band offers promise for small cell deployment, the Notice appropriately recognizes that this band is above the 3 GHz threshold often identified as “the cutoff for ideal spectrum for mobile cellular uses.”⁷ Therefore, the Commission must continue to work with NTIA to prioritize making additional spectrum available below 3 GHz for reallocation to exclusive non-Federal use,⁸ as directed by the Spectrum Act,⁹ and as contemplated in the National Broadband Plan,¹⁰ the President’s National Wireless Initiative,¹¹ the Presidential

⁶ *Id.* at ¶ 2.

⁷ Notice at ¶ 19.

⁸ *See, e.g.*, Prepared Remarks of FCC Chairman Julius Genachowski, “Winning the Global Bandwidth Race: Opportunities and Challenges for Mobile Broadband,” University Of Pennsylvania – Wharton, Philadelphia, PA, at 8 (Oct. 4, 2012), *available at* <http://www.fcc.gov/document/chairman-genachowski-winning-global-bandwidth-race>. (recognizing that “we of course need to keep clearing inefficiently used spectrum and reallocating it for licensed flexible use”) (“Genachowski Wharton Remarks”).

⁹ *See* Middle Class Tax Relief and Job Creation Act of 2012, Pub. L. 112-96, 126 Stat. 156, § 6701(a)(3) (“Spectrum Act”), *codified at* 47 U.S.C. 923(j).

¹⁰ NBP at 84 & Exh. 5-E.

¹¹ The White House, Fact Sheet: President Obama’s Plan to Win the Future through the Wireless Innovation and Infrastructure Initiative (Feb. 10, 2011), *available at* <http://www.whitehouse.gov/the-press-office/2011/02/10/president-obama-details-plan-win-future-through-expanded-wireless-access>.

Memorandum on Unleashing the Wireless Broadband Revolution,¹² and the President's 2011 State of the Union Address.¹³

As described herein, the Commission must also address fundamental questions about its three-tiered spectrum access proposal, including whether it unnecessarily departs from U.S. spectrum management policy, how it will be implemented as a practical matter, and whether a commercial, geographic-licensed, two-tier solution to manage non-Federal access is a better approach.

II. THE 3.5 GHz BAND OFFERS PROMISE FOR SMALL CELL DEPLOYMENT.

CTIA has consistently supported efforts by the President, Congress, NTIA, and the Commission to free up additional Federal spectrum to accommodate the explosive growth in demand for mobile broadband services. With regard to the 3.5 GHz band, the Notice recognizes that the band is above the 3 GHz threshold often identified as “the cutoff for ideal spectrum for mobile cellular uses.”¹⁴ Indeed, the 3.5 GHz band is not among the bands that the FCC itself identified as essential to meet the goal of providing 300 MHz by 2015 for mobile use.¹⁵ The National Broadband Plan identified specific bands, each under 3 GHz, for reallocation for “mobile flexible use,” including:

¹² The White House, Presidential Memorandum: Unleashing the Wireless Broadband Revolution, Memorandum For The Heads Of Executive Departments And Agencies (June 28, 2010) available at <http://www.whitehouse.gov/the-press-office/presidential-memorandum-unleashing-wireless-broadband-revolution>.

¹³ The White House, Remarks by the President in State of Union Address (Jan. 25, 2011), available at <http://www.whitehouse.gov/the-press-office/2011/01/25/remarks-president-state-union-address> (calling for next generation of high-speed wireless coverage to 98 percent of all Americans).

¹⁴ Notice at ¶ 19.

¹⁵ See NBP at 84.

Band	Key Actions and Timing	Megahertz Made Available for Terrestrial Broadband
WCS	2010—Order	20
AWS 2/3	2010—Order 2011—Auction	60
D Block	2010—Order 2011—Auction	10
Mobile Satellite Services (MSS)	2010—L-Band and Big LEO Orders 2011—S-Band Order	90
Broadcast TV	2011—Order 2012/13—Auction 2015—Band transition/clearing	120
Total		300

Source: National Broadband Plan, Exh. 5-E.

Nonetheless, use of the 3.5 GHz band may offer a promising opportunity for innovative services that can support deployments of wireless broadband, including as a component of mobile broadband providers’ heterogeneous access networks (“HetNets”).¹⁶ HetNets deploy a mix of technologies, frequencies, and cell sizes to optimally respond to customer demand – including small cells that supply capacity in high-traffic areas. The 3.5 GHz band appears well suited to be used for small cells, including the small cell components of HetNets.¹⁷

¹⁶ See CTIA Spectrum Task Force Comments at 13-14.

¹⁷ See, e.g., Comments of Qualcomm Incorporated, ET Docket No. 10-123, at iii (Apr. 22, 2011) (“Qualcomm Spectrum Task Force Comments”) (“[HetNets] will enable commercial mobile broadband operators to use spectrum bands that are higher in frequency than normal cellular bands for smaller cells in geographic areas with especially high mobile broadband usage, and to optimize the use of those cells to gain the utmost in overall network capacity.”).

At the same time, as the Notice suggests that the use of small cell technology could “significantly reduce the exclusion zones” needed to protect incumbent Federal systems in the 3.5 GHz band, allowing for more efficient and intensive use of the spectrum.¹⁸ The net result of these benefits is that, in the right bands and under the right economic scenarios, small cells can greatly increase capacity within the network footprint. Given these apparent benefits, and under the framework discussed within these comments, CTIA encourages the Commission, NTIA, and the wireless industry to continue exploring small cell deployment options for the 3.5 GHz band.

III. WHILE CTIA SUPPORTS THE PROPOSED 3.5 GHz REALLOCATION, THE FEDERAL GOVERNMENT SHOULD REMAIN FOCUSED ON CLEARING SPECTRUM BELOW 3 GHz FOR MOBILE BROADBAND.

While innovations like small cell technologies and reallocation to shared use can help make the most of above 3 GHz spectrum, CTIA reiterates that there is no substitute for licensed, exclusive-use spectrum below 3 GHz with flexible service rules to deliver on the incredible benefits of mobile broadband.¹⁹ This approach is necessary to maintain our existing global competitive advantage. As Commissioner McDowell stated earlier today:

The federal government, specifically the executive branch, needs to evaluate its spectrum usage with the goal of relinquishing bandwidth for exclusive and flexible private sector uses. Spectrum

¹⁸ See Notice at ¶¶ 8, 118. In this regard, CTIA agrees that further study of the geographic exclusion zones outlined in the Notice is warranted. The analysis that appears in the NTIA Fast Track Report considered interference to Department of Defense radars based on commercial WiMAX technology deployed in a traditional macrocellular network, not the use of small cells and HetNets. See Notice at ¶¶ 6, 68, 88 (*citing* NTIA, *An Assessment of the Near-Term Viability of Accommodating Wireless Broadband Systems in the 1675-1710 MHz, 1755-1780 MHz, 3500-3650 MHz, 4200-4220 MHz, and 4380-4400 MHz Bands* (rel. Oct. 2010)).

¹⁹ See, e.g., Prepared Remarks of FCC Chairman Julius Genachowski, “The Internet at a Global Crossroads: Preserving Internet Freedom and Openness,” Futurecom, Rio De Janeiro, Brazil (Oct. 10, 2012) (explaining that “the FCC has pioneered innovations in spectrum policy that have unleashed tremendous benefits, including spectrum auctions for flexible licensed use”).

‘sharing’ and the auctioning of exclusive use licenses are not equivalent.²⁰

CTIA agrees with this statement and believes that sharing spectrum with government users is not a substitute for cleared spectrum, and reallocation of spectrum above 3 GHz is not a sufficient replacement for spectrum below 3 GHz.

A. The Federal Government Must Remain Focused On Clearing And Delivering Licensed, Exclusive-Use Spectrum Below 3 GHz With Flexible Service Rules.

As Chairman Genachowski has stated, “clearing and auctioning spectrum for exclusive licensed use must remain a core component of spectrum policy.”²¹ The Commission has also recognized “the need for timely action to free spectrum for mobile broadband.”²² Indeed, the National Broadband Plan recognized that “[b]oth mobile network performance and the availability of mobile broadband rely on the availability of spectrum”²³ and found that:

If the U.S. does not address this situation promptly, scarcity of mobile broadband could mean higher prices, poor service quality, an inability for the U.S. to compete internationally, depressed demand and, ultimately, a drag on innovation.²⁴

²⁰ Statement of Commissioner Robert M. McDowell, *Revision of Part 15 of the Commission’s Rules to Permit Unlicensed National Information Infrastructure (U-NII) Devices in the 5 GHz Band*, Notice of Proposed Rulemaking, ET Docket No. 13-49 (rel. Feb. 20, 2013).

²¹ Genachowski Wharton Remarks at 11.

²² Federal Communications Commission, *MOBILE BROADBAND: THE BENEFITS OF ADDITIONAL SPECTRUM*, at 2 (Oct. 2010); *see also* *Serv. Rules for Advanced Wireless Servs. in the 2000-2020 MHz and 2180-2200 MHz Bands*, Notice of Proposed Rulemaking and Notice of Inquiry, 27 FCC Rcd 3561, 3566-67 ¶¶ 10, 12 (2012) (“According to Cisco Systems, North American mobile Internet traffic more than doubled in 2011 and is expected to grow over 15-fold in the next five years. This explosive growth is creating an urgent need for more network capacity and, in turn, for suitable spectrum.”).

²³ NBP at 22.

²⁴ *Id.* at 77. *See also id.* at 85 (“[T]he accelerating nature of industry analyst demand forecasts makes clear that it is not a question of *if* the U.S. will require 300 megahertz of spectrum for mobile broadband, but *when*.”) (emphasis in original).

Similarly, President Obama and the Administration have repeatedly underscored the importance of delivering spectrum that is suitable for *mobile* broadband, *i.e.*, licensed, exclusive-use spectrum below 3 GHz with flexible service rules. In his 2011 State of the Union Remarks, President Obama issued a goal for ubiquitous mobile connectivity:

Within the next five years, we'll make it possible for businesses to deploy the next generation of high-speed wireless coverage to 98 percent of all Americans. This isn't just about -- (applause) -- this isn't about faster Internet or fewer dropped calls. It's about connecting every part of America to the digital age.²⁵

To achieve this end, President Obama also called for a National Wireless Initiative which would “Nearly Double Wireless Spectrum Available for Mobile Broadband.”²⁶ The Administration’s National Wireless Initiative directed that “[t]he majority of the freed up spectrum would be auctioned for licensed mobile broadband.”²⁷ Similarly, the Administration’s Presidential Memorandum directed that NTIA “collaborate with the [FCC] to make available a total of 500 MHz of Federal and nonfederal spectrum over the next 10 years, suitable for both mobile and fixed wireless broadband use.”²⁸

²⁵ The White House, Remarks by the President in State of Union Address (Jan. 25, 2011), *available at* <http://www.whitehouse.gov/the-press-office/2011/01/25/remarks-president-state-union-address>.

²⁶ The White House, Fact Sheet: President Obama’s Plan to Win the Future through the Wireless Innovation and Infrastructure Initiative (Feb. 10, 2011), *available at* <http://www.whitehouse.gov/the-press-office/2011/02/10/president-obama-details-plan-win-future-through-expanded-wireless-access>.

²⁷ *Id.*

²⁸ The White House, Presidential Memorandum: Unleashing the Wireless Broadband Revolution, Memorandum For The Heads Of Executive Departments And Agencies (June 28, 2010),

CTIA agrees with these conclusions. As does the broader wireless ecosystem, including 4G Americas, Consumer Electronics Association, High-Tech Spectrum Coalition, Information Technology Industry Council, Telecommunications Industry Association, and the Wireless Broadband Coalition, which joined CTIA in a call for licensed, exclusive-use spectrum below 3 GHz:

The evidence is overwhelming. More cleared, paired, internationally-harmonized spectrum allocations below 3 GHz are needed and needed soon. America's economy and its global leadership in mobile broadband depend on it.²⁹

Thus, the Federal government should continue to pursue clearing of additional spectrum for mobile broadband as its preferred approach for bands below 3 GHz. The goal is to clear as much spectrum for mobile broadband below 3 GHz – at least 300 MHz – and also to address the need for additional unlicensed spectrum. In particular, the Commission should work with NTIA to reallocate the 1755-1780 MHz band from Federal to exclusive non-Federal use.³⁰ As CTIA has explained, this spectrum is particularly well suited to mobile broadband because it is both internationally harmonized and adjacent to spectrum in the AWS-1 band already used for mobile broadband.³¹ The full 1780-1850 MHz band is also well suited for mobile broadband and its

available at <http://www.whitehouse.gov/the-press-office/presidential-memorandum-unleashing-wireless-broadband-revolution>.

²⁹ See Letter to Chairmen Upton and Walden and Ranking Members Waxman and Eshoo, from CTIA, 4G Americas, Consumer Electronics Association, High-Tech Spectrum Coalition, Information Technology Industry Council, Telecommunications Industry Association, and Wireless Broadband Coalition, at 2 (Sept. 12, 2012), *available at* <http://www.4gamericas.org/documents/120912%20Mulit%20Assoc%20Call%20for%20More%200Licensed%20Spectruml.pdf>.

³⁰ See, e.g., CTIA Spectrum Task Force Comments at 6-10.

³¹ See *id.*

reallocation should be a priority as well.³² CTIA therefore supports efforts by the Department of Commerce’s Spectrum Management Advisory Committee (“CSMAC”) that result in a path to reallocate spectrum, in particular the 1755-1780 MHz band.³³

B. While Investigation Of Spectrum Sharing Is Sensible In Appropriate Circumstances, The PCAST Report’s Conclusion That Sharing Should Be The “Norm” Is Misguided If The U.S. Mobile Ecosystem Is To Continue To Lead The World.

Given the critical importance of clearing additional spectrum below 3 GHz, CTIA is concerned about the Notice’s reliance on a recent report by the President’s Council of Advisors on Science and Technology (“PCAST”),³⁴ which found that clearing and reallocation of Federal spectrum is not sustainable and shared use should be the preferred model going forward.³⁵ While CTIA agrees that it is sensible to investigate creative approaches for making Federal government spectrum commercially available, including the development of certain sharing capabilities, reallocation of spectrum below 3 GHz to exclusive non-Federal use must remain a priority.³⁶

³² See *id.* at 10-11.

³³ See, e.g., NTIA, Commerce Spectrum Management Advisory Committee Meeting, Notice of Open Meeting, 78 Fed. Reg. 7758 (Feb. 4, 2013).

³⁴ Notice at ¶ 1 (“Our proposal ... broadly reflects recommendations made in a recent report by the President’s Council of Advisors on Science and Technology (PCAST).”); see also *id.* at ¶¶ 40-43.

³⁵ PCAST, Report to the President: Realizing the Full Potential of Government-Held Spectrum to Spur Economic Growth, vi (July 20, 2012) (finding that “clearing and reallocation of Federal spectrum is not a sustainable basis for spectrum policy” and “the norm for spectrum use should be sharing, not exclusivity”), available at http://www.whitehouse.gov/sites/default/files/microsites/ostp/pcast_spectrum_report_final_july_20_2012.pdf.

³⁶ See CTIA Statement on PCAST Government Spectrum Report (Jul. 20, 2012), <http://blog.ctia.org/2012/07/20/pcast-report/>.

Indeed, the preference for clearing has been codified into law. As Congress directed in the Spectrum Act, NTIA shall prioritize reallocation over sharing:

In evaluating a band of frequencies for possible reallocation for exclusive non-Federal use or shared use, the NTIA *shall give priority to options involving reallocation of the band for exclusive non-Federal use* and shall choose options involving shared use only when it determines ... that relocation of a Federal entity from the band is not feasible because of technical or cost constraints.³⁷

The preference for clearing and an exclusive-use approach has fostered the U.S. wireless industry's world-leading deployment of mobile broadband networks and provided tremendous economic benefits for U.S. consumers and businesses.³⁸ For example, commercial mobile providers have invested hundreds of billions of dollars – more than \$25 billion from July 2011-June 2012 alone³⁹ – in networks that provide innovative mobile broadband services to 98.5 percent of Americans.⁴⁰ And continued 4G wireless network investments could bring \$73 billion to \$151 billion in GDP growth, and provide 371,000 to 771,000 jobs, by 2016.⁴¹ Indeed, the

³⁷ See Spectrum Act § 6701(a)(3) (emphasis added), *codified at* 47 U.S.C. § 923(j).

³⁸ See, e.g., Prepared Remarks of FCC Chairman Julius Genachowski, “The Internet at a Global Crossroads: Preserving Internet Freedom and Openness,” Futurecom, Rio De Janeiro, Brazil (Oct. 10, 2012) (explaining that “the FCC has pioneered innovations in spectrum policy that have unleashed tremendous benefits, including spectrum auctions for flexible licensed use”).

³⁹ CTIA – The Wireless Association®, *CTIA’s Wireless Industry Summary Report, Mid-Year 2012 Results* (2012); see also CTIA – The Wireless Association®, 50 Wireless Quick Facts, <http://www.ctia.org/advocacy/research/index.cfm/AID/10377> (last visited Feb. 14, 2013).

⁴⁰ *Annual Report and Analysis of Competitive Market Conditions With Respect to Mobile Wireless, Including Commercial Mobile Services*, Fifteenth Report, 26 FCC Rcd 9664, 9672 ¶ 46 (2011); see also Genachowski Wharton Remarks at 2.

⁴¹ Deloitte, *The Impact of 4G Technology on Commercial Interactions, Economic Growth and U.S. Competitiveness* (2012), <http://www.deloitte.com/us/impactof4g>.

Commission has credited existing exclusive, flexible-use bands as being the most intensively used spectrum and as serving as a “runway” for the launch of innovative services.⁴²

Accordingly, the Commission should remain focused on working with NTIA and other stakeholders to identify and clear additional spectrum for mobile broadband.

IV. THE THREE-TIERED SPECTRUM ACCESS PROPOSAL RAISES FUNDAMENTAL QUESTIONS FOR U.S. SPECTRUM MANAGEMENT POLICY.

To the extent that the Commission determines that a shared federal-commercial allocation is appropriate in the 3.5 GHz band, CTIA and its members are well suited to engage with the Commission on the appropriate regulatory framework for this band. CTIA’s members include both carriers, who are leading the world in deployment of advanced mobile networks, as well as manufacturers, who are developing innovative technologies designed to maximize the efficiency of available spectrum. As noted above, CTIA regards this notice as an important step in evaluating the appropriate use of the 3.5 GHz band and looks forward to further discussion of the issues raised. CTIA offers, below, initial comments on the NPRM’s proposed three-tiered regulatory access framework.

For years the Commission has touted its flexible use policy as a key factor in ensuring that spectrum is put to its best use,⁴³ but the Notice’s proposed three-tiered spectrum access

⁴² NBP at 84.

⁴³ See *Promoting Efficient Use of Spectrum Through Elimination of Barriers to the Development of Secondary Markets*, Report and Order and Further Notice of Proposed Rulemaking, 18 FCC Rcd 20604, 20632 ¶ 57 (2003); *Annual Report and Analysis of Competitive Market Conditions with Respect to Commercial Mobile Services*, First Report, 10 FCC Rcd 8844, 8872 ¶ 83 (FCC 1995); see also NBP at 79 (“Flexibility of use enables markets in spectrum, allowing innovation and capital formation to occur with greater efficiency. More flexible spectrum rights will help

framework for the 3.5 GHz band threatens the return of a command-and-control approach with the Commission choosing winners and losers. Further, the concept is rife with significant operational questions that have the potential to undermine the benefits that the 3.5 GHz band has to offer.

A. The Three-Tiered Approach Raises Significant Questions.

The proposal envisions three tiers of users, with a geo-location database governing new commercial access. The first tier (“Incumbent Access”) would include incumbent Federal users and commercial FSS licensees, who would be protected from all other 3.5 GHz users; the second tier (“Priority Access”) would include as yet undefined “critical, quality-of-service dependent users,” who would protect Incumbent Access users but otherwise would receive quality-assured access in designated locations; and the third tier (“General Authorized Access”) would include all other users who must protect Incumbent Access and Priority Access users but would have opportunistic access to the spectrum, with no interference protection rights.⁴⁴ This proposal, however, appears problematic for a number of reasons.

First, the three-tiered proposal appears to take a step back from the Commission’s long-standing, market-oriented flexible use spectrum access framework – both in licensed and unlicensed services – that has been so successful and has enabled innovation to thrive in the wireless market. As the Commission has explained:

The Commission’s approach has evolved over time toward the adoption of flexible rules governing both licensed and unlicensed use of spectrum [A] ‘flexible use’ policy ... focuses on

ensure that spectrum moves to more productive uses, including mobile broadband, through voluntary market mechanisms.”).

⁴⁴ See Notice at ¶¶ 53-60.

technical rules to prevent or limit interference among multiple spectrum uses, *rather than prescribing specific uses*. Licensees can make fundamental choices about how to use spectrum ... taking into account market factors such as consumer demand, availability of technology, competition, and opportunity cost.⁴⁵

Here, however, the Commission's proposal is to give some users preferred access and interference protection rights because the agency deems these users (*i.e.*, undefined "critical users"⁴⁶) more important than others (*i.e.*, general "opportunistic uses"⁴⁷) – effectively picking winners and losers.⁴⁸ By prescribing which users are entitled to superior rights and protections, this approach arbitrarily and unnecessarily departs from a flexible use policy in which the market decides the best use of the spectrum.

Second, there are significant practical questions about how such an approach would be implemented. For example, the Notice calls for the Priority Access tier to be available only to certain "mission critical" users in so-called "Priority Access Zones," but does not propose what

⁴⁵ *Expanding the Opportunities of Spectrum Through Incentive Auctions*, Notice of Proposed Rulemaking, 27 FCC Rcd 12357, 12367 ¶ 23 (2012) (emphasis added); *see also Innovation in the Broadcast Television Bands*, Notice of Proposed Rulemaking, 25 FCC Rcd 16498 (Nov. 30, 2010) ("As we outlined in the National Broadband Plan and more recently at the FCC's Spectrum Summit, we have a two-pronged plan for bridging the gap between spectrum supply and demand. First, we'll pursue policies to drive the most efficient and flexible use of spectrum. Second, we'll seek to bring market forces to bands of spectrum where markets currently aren't given the opportunity to work.") (Statement of Chairman Julius Genachowski); *Principles for Reallocation of Spectrum to Encourage the Development of Telecommunications Technologies for the New Millennium*, Policy Statement, 14 FCC Rcd 19868, 19870 ¶ 9 (1999) (observing that "[f]lexible allocations may result in more efficient spectrum markets").

⁴⁶ *Id.* at ¶ 73.

⁴⁷ *Id.* at ¶ 75.

⁴⁸ *See Inquiry Concerning the Deployment of Advanced Telecommunications Capability*, Report, 14 FCC Rcd 2398, 2402 ¶ 5 (1999) (explaining that the role of the Commission is "not to pick winners and losers, or to select the best technology to meet consumer demand," but rather "to rely as much as possible on free markets and private enterprise").

users would qualify as critical or how to determine the size of their priority zone.⁴⁹ Critically, the Notice does not specify how the FCC would go about assessing whether an entity is eligible for the Priority Access tier or whether a Priority Access user is making use of the Priority Access Zone for “mission critical” purposes.⁵⁰ Similarly, the Notice’s proposal triggers issues with user expectations, especially with respect to the proposal to give Priority Access rights in a shared use construct. The Notice, for example, lacks sufficient detail concerning how interference between different Priority Access users (*e.g.*, adjacent doctor suites in an office building where each deploys Priority Access Zones that may interfere with one another) would be resolved.⁵¹ Nor does the Notice explain whether preemption of General Authorized Access users would be implemented in the event a Priority Access user initiates use.⁵² These types of issues are critical to assessing the utility of small cell deployments. Finally, the Notice does not address what type of quality of service each user could expect, or whether a business model or product offering could be developed and delivered under this proposal.

B. A Two-Tiered Licensed Approach Should Be Considered.

To the extent that the FCC determines that a shared Federal-commercial allocation is appropriate for the 3.5 GHz band, CTIA encourages the Commission to carefully investigate

⁴⁹ See Notice at ¶¶ 9, 55, 70-71, 73. The Notice includes only a “suggest[ion]” that eligible users “could include hospitals, utilities, state and local governments, and/or other users with a distinct need for reliable, prioritized access to broadband spectrum at specific, localized facilities.” *Id.* at ¶ 9.

⁵⁰ See *id.* at ¶¶ 100-01.

⁵¹ See *id.* at ¶¶ 9, 70-74. The Notice simply states, without explanation, that “Priority Access users would be ... accorded protection from interference from ... other Priority Access users within their local facilities.” *Id.* at ¶ 9.

⁵² See *id.* at ¶¶ 10, 75-76.

whether a commercial, exclusive-use licensed solution to manage non-Federal access to the band would be preferable to the proffered three-tiered approach. Under such a two-tiered approach, geographic area licensing could give commercial licensees clearly defined rights and obligations in their licensed areas, allowing them to better plan and incorporate 3.5 GHz spectrum into their overall network deployment plans to increase capacity and support mobile broadband services provided in other bands. Such a solution could provide customers with continued high quality mobile broadband service, driving a better-understood interference environment and quality-of-service regime. Before it embarks down the path toward an underdeveloped concept that could limit full use of the band, the Commission should consider whether an alternative two-tiered model would drive greater certainty in terms of interference expectations, and therefore greater investment.

V. CONCLUSION

CTIA supports efforts to increase the utility of the 3.5 GHz band while at the same time urging Government to prioritize making additional spectrum below 3 GHz available for reallocation to exclusive non-Federal use. The Commission should reconsider the three-tiered spectrum access proposal, which deviates from the successful flexible use policy and returns spectrum access to a command-and-control framework. Taking these steps will promote competition and help ensure a vibrant, innovation-based mobile economy.

Respectfully submitted,

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